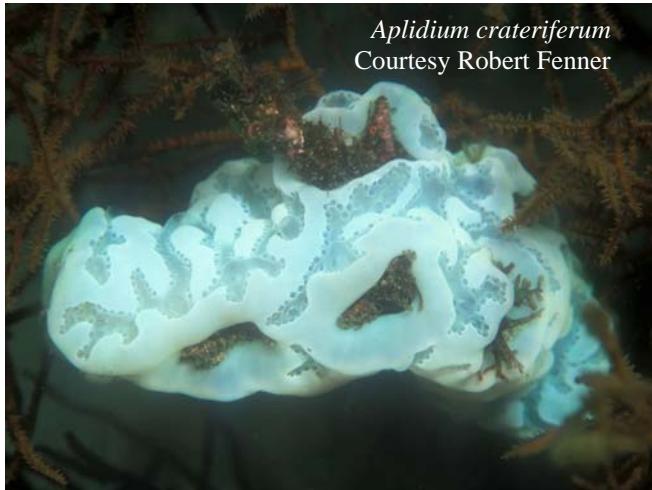


## Marine Invertebrates

### Miscellaneous Filter Feeders



**Brachiopod**  
*Lingula reevii*

**Bryozoans**  
**Ascidians**

**SPECIES STATUS:**  
IUCN Red List – Not considered  
Endemic

**SPECIES INFORMATION:** Only two species have common names: an undescribed species of *Parasmittina* is called yellow crust brozoan, and an undescribed species of *Aplidium* is called gold ring aplidium. A complete list of Hawai‘i bryozoans and ascidians of greatest conservation need is at the end of this fact sheet. All of these species are filter-feeders.

Brachiopods (often called lamp shells) superficially look like clams, but they are more closely related to bryozoans. Both groups use a ring of tentacles called a lophophore to filter feed. Brachiopods are solitary. Bryozoans are colonial and can live on solid substrates or in sand. Each individual is about one millimeter (0.04 inch) long. Most species have an external skeleton made of calcium. Colonies can be encrusting or bushy. They eat a range of food items from diatoms, detritus, and algal cysts to pollen grains. In Hawai‘i and other tropical areas; however, evidence suggests they may feed primarily on bacteria. Ascidians can be solitary or colonial and attach to hard surfaces. Individuals can be up to 13 centimeters (five inches) long. All have two tubes or siphons to direct water flow. *Lingula reevii* reproduces sexually and has low dispersal potential. Like other *Lingula*, it resides in burrows in sand or mud. Yellow crust bryozoan (*Parasmittina* sp.), gold ring aplidium (*Aplidium* sp.), and many other of these species are part of the “fouling community” that grows especially well on boat hulls and other man-made structures. Most bryozoans are hermaphroditic. Production of sperm and eggs occurs at the same time; however, protandry (male first reproduction) is more common. The ascidians are hermaphrodites and brood their eggs internally. Once the eggs hatch, the next stage is a tadpole-like larvae.

**DISTRIBUTION:** *Lingula reevii* is found only in Kāne‘ohe Bay, O‘ahu. The yellow crust bryozoan is found throughout the Main Hawaiian Islands, but is abundant at Molokini Islet, Maui. Gold ring aplidium is found at Makena and Molokini Islet, Maui. *Eudistoma austerum*,

*Eudistoma parva*, *Ecteinascidia diligens*, and *Ecteinascidia rubricollis* are only known from Laysan Island.

**ABUNDANCE:** *Lingula reevii* is declining based on Division of Aquatic Resources surveys in Kāne‘ohe Bay, but abundances are unknown for the other species.

**LOCATION AND CONDITION OF KEY HABITAT:** *Lingula reevii* primary habitat is the sandy reef flats of Kāne‘ohe Bay, O‘ahu, and this habitat is degraded. Yellow crust bryozoan primary habitat includes corals, shells, and stones onto which they encrust. Gold ring aplidium occurs at “scuba depths.” Most other bryozoans occur in shallow, warm waters when they are protected from intense light. They are not common in rocky intertidal zones. In the subtidal zone, they inhabit patch and fringing reefs. *Parasmittina* and *Thalamoporella* are especially common on these reefs. Ascidiants attach to hard substrates

**THREATS:**

- Habitat degradation due to urbanization and sedimentation of Kāne‘ohe Bay, O‘ahu threatens *Lingula reevii*;
- Harvest of *Lingula reevii* for biomedical research.

**CONSERVATION ACTIONS:** In addition to common statewide and marine conservation actions, specific actions include:

- Restore habitat of *Lingula*;
- Maintain healthy populations with appropriate fishing regulations, enforcement, and education.

**MONITORING:**

- Continue to survey for populations and distribution in known and likely habitats.

**RESEARCH PRIORITIES:**

- Improve understanding of factors affecting the species population size and distribution;
- Support aquaculture research to develop captive breeding for *Lingula*’s use in research.

**References:**

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Soule JD, DF Soule, HW Chaney. 1987. Phyla Entoprocta and Bryozoa (Ectoprocta). Pp. 83-166. In: Devaney DM, LG Eldredge, editors. Reef and shore fauna of Hawaii: Section 2: Platyhelminthes through phoronida and Section 3: Sipuncula through annelida. Honolulu, HI: Bishop Museum Press.

## Misc. Filter Feeders SGCNs

<b>Order</b>	<b>Subclass</b>	<b>Family</b>	<b>Scientific Name</b>	<b>Hawaiian Name</b>	<b>Common Name</b>
Ectoprocta		Adeonidae	<i>Immergentia angulata</i>	None	None
Ectoprocta		Bugulidae	<i>Celleporaria honoluensis</i>	None	None
Ectoprocta		Bugulidae	<i>Terebripora varians</i>	None	None
Ectoprocta		Chorizoporidae	<i>Chorizopora honoluensis</i>	None	None
Ectoprocta		Crepidacanthidae	<i>Mastiphora honoluensis</i>	None	None
Ectoprocta		Hippopodinidae	<i>Coscinopsis fusca</i>	None	None
Ectoprocta		Myriozoidae	<i>Myriozoum honolulense</i>	None	None
Ectoprocta		Petalieillidae	<i>Mucropetraliella albirostris</i>	None	None
Ectoprocta		Petalieillidae	<i>Mucropetraliella magnifica</i>	None	None
Ectoprocta		Schizoporellidae	<i>Schizomavella torquata</i>	None	None
Ectoprocta		Schizoporellidae	<i>Schizoporella decorata</i>	None	None
Ectoprocta		Schizoporellidae	<i>Schizoporella flexilis</i>	None	None
Ectoprocta		Schizoporellidae	<i>Schizoporella furcata</i>	None	None
Ectoprocta		Sertellidae	<i>Phidolophora robusta</i>	None	None
Ectoprocta		Sertellidae	<i>Reteporellina fimbriata</i>	None	None
Ectoprocta		Sertellidae	<i>Reteporellina trabeculifera</i>	None	None
Ectoprocta		Sertellidae	<i>Rhynchozoon nudum</i>	None	None
Ectoprocta		Sertellidae	<i>Rhynchozoon tuberosum</i>	None	None
Ectoprocta		Sertellidae	<i>Triphyllozon contortuplicata</i>	None	None
Ectoprocta		Smittinidae	<i>Hemismittoidea corallinea</i>	None	None
Ectoprocta		Smittinidae	<i>Hemismittoidea osburni</i>	None	None
Ectoprocta		Smittinidae	<i>Parasmittina alanbanneri</i>	None	None
Ectoprocta		Smittinidae	<i>Parasmittina circularis</i>	None	None
Ectoprocta		Smittinidae	<i>Parasmittina emersoni</i>	None	None
Ectoprocta		Smittinidae	<i>Parasmittina ilioensis</i>	None	None
Ectoprocta		Smittinidae	<i>Parasmittina kauaiensis</i>	None	None
Ectoprocta		Smittinidae	<i>Parasmittina leviavicularia</i>	None	None
Ectoprocta		Smittinidae	<i>Parasmittina marsupialis</i>	None	None
Ectoprocta		Smittinidae	<i>Parasmittina parvuncinata</i>	None	None
Ectoprocta		Smittinidae	<i>Parasmittina raigiformis</i>	None	None
Ectoprocta		Smittinidae	<i>Parasmittina sp.</i>	None	Yellow crust bryozoan
Ectoprocta		Smittinidae	<i>Parasmittina uncinata</i>	None	None
Ectoprocta		Smittinidae	<i>Pleurocodonellina lahaiinae</i>	None	None
Ectoprocta		Smittinidae	<i>Smittina kukuiula</i>	None	None
Ectoprocta		Tetraplariidae	<i>Pollaploecium brevis</i>	None	None
Ectoprocta		Thalamoporellidae	<i>Thalamoporella delicata</i>	None	None
Ectoprocta		Thalamoporellidae	<i>Thalamoporella molokaiensis</i>	None	None
Ectoprocta		Thalamoporellidae	<i>Thalamoporella verrilli</i>	None	None
Ectoprocta		Calloporidae	<i>Callopora parvirostratus</i>	None	None
Ectoprocta		Hincksinidae	<i>Antropora levigata</i>	None	None
Ectoprocta		Penetrantiidae	<i>Penetrantia operculata</i>	None	None
Ectoprocta		Crisiidae	<i>Diaperoecia intricata</i>	None	None
Ectoprocta		Lichenoporidae	<i>Crisiona baculifera</i>	None	None
Ectoprocta		Lichenoporidae	<i>Disporella violacea</i>	None	None
<b>Order</b>	<b>Subclass</b>	<b>Family</b>	<b>Scientific Name</b>	<b>Hawaiian</b>	<b>Common</b>

				Name	Name
Ectoprocta		Frondiporidae	<i>Filifascigera robusta</i>	None	None
Chordata	Asciidiacea	Didemnidae	<i>Didemnum elikapekae</i>	None	None
Chordata	Asciidiacea	Didemnidae	<i>Leptoclinides hawaiiensis</i>	None	None
Chordata	Asciidiacea	Didemnidae	<i>Trididemnum profundum</i>	None	None
Chordata	Asciidiacea	Polycitoridae	<i>Eudistoma austerum</i>	None	None
Chordata	Asciidiacea	Polycitoridae	<i>Eudistoma fusca</i>	None	None
Chordata	Asciidiacea	Polycitoridae	<i>Eudistoma parva</i>	None	None
Chordata	Asciidiacea	Polyclinidae	<i>Aplidium sp. I</i>	None	Gold ring aplidium
Chordata	Asciidiacea	Perophoridae	<i>Ecteinascidia diligens</i>	None	None
Chordata	Asciidiacea	Styelidae	<i>Eusynstyela transversalis</i>	None	None
Chordata	Asciidiacea	Pyuridae	<i>Microcosmus miniaceus</i>	None	None